

REMARKS

Claims 45-48 and 52-60 are pending. Claims 45-48, prior to amendment, correspond to cancelled claims 45-48, and claims 52-60 correspond to cancelled claims 56-64, of parent reissue application serial number 09/482,340.

In the Office Action dated March 27, 2002, in the parent reissue application, the Examiner rejected reissue claims 45-48, 56, 60, 61, 63 and 64 (currently pending claims 45-48, 52, 56, 57, 59 and 60 in the present case) as obvious over Ziemek in view of UK '862, and reissue claims 56-59 and 62 (currently pending claims 52-55 and 58 in the present case) over Brorein in view of UK '862.

The following remarks of applicant are preceded by related comments of the examiner from the March 27th office action in small bold-face type.

2. Claims 45-48, 56, 60, 61, 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziemek et al. in view of the UK 1,117,862 reference (UK'862).

Ziemek et al. discloses a structure having an inherent method comprising forming a length of helically wound conductive sheath (7) for housing conductors, wherein the conductive sheath has an outer surface having an appearance. Ziemek et al. does not disclose after the forming, applying a coating to the outer surface of the sheath, the coating having an appearance different from the appearance of the outer surface of the sheath (claim 45).

UK'862 discloses a structure having an inherent method comprising forming a length of helically wound conductive sheath for housing conductor, the conductive sheath having an outer surface having an appearance, and after the forming, applying a coating (5) to the outer surface of the sheath, the coating having an appearance different from the appearance of the outer surface of the sheath.

It would have been obvious to one skilled in the art to modify the cable of Ziemek et al. by applying, after the forming, a coating (5) as taught by UK'862 on the outer surface of the sheath to provide a distinguishing marker on the cable....

The modified cable of Ziemek et al. also discloses a structure having an inherent method comprising forming a length of continuous conductive tubular sheath (7) for housing conductors, the conductive sheath having an outer surface having an appearance, and after the forming, applying a coating (5, UK'862) to the outer surface of the sheath, the coating having an appearance different from the appearance of the outer surface of the sheath, and no further processing being performed that would cover the applied coating (re claims 56 and 63). ...

Re claim 64, it would have been obvious that in the modified cable of Ziemek et al., instead of forming the sheath first and applying the coating to the sheath next, one skilled in the art would

apply the coating taught by UK'862 on the conductive strip of Ziemek et al. then convoluting the conductive strip to form a finished product in the form of a helically wound conductive sheath (7) since this merely reversing steps in a process is just a matter of choice. In re Einstein, 8 USPQ 167.

With respect to claims 45, 56, 63 and 64 (claims 45, 52, 59 and 60 in the present case), contrary to the Examiner's position, it would not have been obvious to one skilled in the art "to modify the cable of Ziemek et al. by applying, after the forming, a coating (5) as taught by UK'862 on the outer surface of the sheath to provide a distinguishing marker on the cable." There would have been no motivation or suggestion in either reference for the proposed combination, nor any reason why a distinguishing marker on the cable of Ziemek et al. would have been desirable. UK '862 describes:

[H]igh voltage power cables of the type in which the conductors thereof are each provided with an insulating sleeve of a high-polymer insulating material... surrounded by a brush discharge screen comprising a conductive layer on top of the insulating sleeve... and a metal sleeve which at least partially covers the conductive layer... The insulating sleeves of the conductors of high voltage cables are normally variously coloured in accordance with an appropriate code, in order to simplify cable connections. For instance, the insulating sleeves of a three-core cable may be coloured light grey, black and red. When connecting a cable, the screen, that is to say the helical metal tape and the black conductive layer on top of the insulating sleeve must be completely removed at each end of the cable... Experience has shown that it is difficult to determine whether or not the black conductive layer... has been properly removed where the insulating sleeve concerned is itself black. Page 1, col. 1, line 11 to col. 2, line 54.

To address this problem, referring to Fig. 1 of UK '862, rather than providing the insulating sleeves 2 with different colors, a distinguishing marker 5, e.g., a tape, wire or strip, is placed between the black conductive layer 3 and the helical metal tape 6. Since the insulating sleeves can then be all the same color, and a color that contrasts with the black conductive layer, the insulating sleeve can be distinguished from the black conductive layer to facilitate removal of the black conductive layer from the insulating sleeve. (See, e.g., page 1, col. 2, line 76 to page 2, col. 1, line 5; page 2, col. 1, lines 51-52; and page 2, col. 2, lines 55 and 59.)

Ziemek et al. describes a multi-wire electric power cable, particularly a supply cable for borehole units, for example pumps, in which "[t]he adjacent wires are... surrounded by a flexible metallic armoring (7) which consists of a metal tape applied helically with overlapping tape edges." Col. 2, lines 17-20.

There would have been no motivation to modify Ziemek's cable with the distinguishing marker of UK '862. UK '862 describes placing markers on each individual conductor of a cable, not on the outer surface of a sheath, as proposed by the Examiner in the modification of Ziemek's cable. One skilled in the art, presented with UK '862 and Ziemek, would not have been led to place markers on the outer surface of Ziemek's cable, i.e., on metallic armor 7, as this is not what is described by UK '862. Even if one were to apply the conductor markers of UK '862 to Ziemek's conductors, the combination would not result in applicant's claimed invention, i.e., a coating on the outer surface of a sheath housing conductors, because each of Ziemek's tubes 5 surrounds only a single conductor 1. Furthermore, with respect to claims 45, 59 and 60, tubes 5 are not helically wound.

Furthermore, UK '862 describes placing a distinguishing marker underneath a helical metal tape. There is no description or suggestion in UK '862 of placing the distinguishing marker on the outer surface of a sheath in which the multiple conductors are housed, as in the proposed modification to Ziemek. Nor is there any description or suggestion that a distinguishing marker in the form of a tape, wire or strip, as described by UK '862, can be placed on the outer surface of the sheath of Ziemek without destroying the cable's use for its intended purpose, i.e., a supply cable for borehole units having specific requirements related to pressure, temperature, and lack of sensitivity to corrosive agents. (See, e.g., Ziemek col. 1, lines 19-36.)

Therefore, applicant submits that claims 45-48, 52, 56, 57, 59 and 60 in the present case are patentable over Ziemek in view of UK '862.

3. Claims 56-59 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brorein (4,154,976) in view of UK'862.

Brorein discloses a structure having an inherent method comprising forming a length of continuous conductive tubular sheath (18) for housing conductors, wherein the conductive sheath has an outer surface having an appearance. Brorein does not disclose after the forming, applying a coating to the outer surface of the sheath, the coating having an appearance different from the appearance of the outer surface of the sheath (re claim 56).

UK'862 discloses a structure having an inherent method comprising applying a coating (5) to the outer surface of a sheath, the coating having an appearance different from the appearance of the outer surface of the sheath.

It would have been obvious to one skilled in the art to modify the cable of Brerein by applying, after the forming, a coating (5) as taught by UK'862 on the outer surface of the sheath to provide a distinguishing marker on the cable.

Contrary to the Examiner's position, it would not have been obvious to one skilled in the art "to modify the cable of Borein by applying, after the forming, a coating (5) as taught by UK'862 on the outer surface of the sheath to provide a distinguishing marker on the cable." There would have been no motivation or suggestion in either reference for the proposed combination, nor any reason why a distinguishing marker on the cable of Borein would have been desirable.

Borien describes a cable having a cable core 10 formed with a plurality of conductors 30, each of which is surrounded by a layer of insulation, preferably a semi-rigid polyvinyl chloride insulation, heat resistant materials 32, 34 applied over the conductors 30, and a surrounding metal sheath 18 formed by welding a tape. (See, e.g., col. 2, lines 20-35 and lines 56-59, and col. 2, line 67 to col. 3, line 2.)

There would have been no motivation to modify Borien's cable with the distinguishing marker of UK '862. UK '862 describes placing markers on each individual conductor of a cable, not on the outer surface of a sheath, as proposed by the Examiner in the modification of Borien's cable. One skilled in the art, presented with UK '862 and Borien, would not have been led to place markers on the outer surface of Borien's cable, i.e., on metallic sheath 18, as this is not what is described by UK '862. Even if one were to apply the conductor markers of UK '862 to Ziemek's conductors, the combination would not result in applicant's claimed invention, i.e., a coating on the outer surface of a continuous conductive tubular sheath housing conductors, because Borien's conductors 30 are surrounded by non-conductive insulation. (See, e.g., col. 2, lines 56-59). Furthermore, each of Borien's non-conductive insulation surrounds only a single conductor.

Furthermore, UK '862 describes placing a distinguishing marker underneath a helical metal tape. There is no description or suggestion in UK '862 of placing the distinguishing marker on the outer surface of a sheath in which the multiple conductors are housed, as in the proposed modification to Borien.

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Therefore, applicant submits that 52-55 and 58 in the present case are patentable over Brorein in view of UK '862.

Applicant asks that all claims be examined. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: _____

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Version with markings to show changes made

In the Specification:

Col. 1, lines 3-8 has been amended to read as follows::

More than one reissue application has been filed for the reissue of Patent No. 5,708,235.

The reissue applications are U.S. Serial No. 09/482,340 and U.S. Serial No. 10/058,225, which is a continuation of U.S. Serial No. 09/482,340. Patent No. 5,708,235 [This] is a continuation of application Ser. No. 08/458,642 filed on Jun. 2, 1995, allowed, now as U.S. Pat. No. [5,557,071] 5,557,071, which is a continuation of Ser. No. 08/139,314, filed on Oct. 19, 1993, now issued as U.S. Pat. No. 5,468,914, which is a divisional of Ser. No. 07/865,334, filed Apr. 8, 1992, now issued as U.S. Pat. No. 5,350,885.

In the Claims:

Claims 1-44 and 49-51 have been canceled.

Claim 45 has been amended as follows:

45. (Amended) A method comprising:

forming a length of overlapping, helically wound conductive sheath for housing conductors, the conductive sheath having an outer surface having an appearance, and

after the forming, applying a coating to the outer surface of the sheath, the coating having an appearance different from the appearance of the outer surface of the sheath.

New claims 52-60 have been added.